

What is claimed is:

1. A data communication method of transmitting data from a communication application to a recording medium, the method comprising:

assigning priorities to data to be transmitted from plural communication applications; and

judging the assigned priorities upon receipt of the data transmitted from each of said plural communication applications, and transmitting the data to said recording medium in order of decreasing priorities.

2. The data communication method according to Claim 1, further comprising:

dividing the received data into plural data pieces; and transmitting, upon receipt of data having a higher priority than the data already received while the divided data pieces are being transmitted time-sequentially, the data having the higher priority than the data already received after transmission of a data piece being transmitted is completed, and resuming transmission of remaining data pieces after transmission of the data is completed.

3. The data communication method according to Claim 1, wherein:

upon receipt of plural kinds of data having equal priorities, data pieces of said plural kinds of data are transmitted by turns.

4. A data communication apparatus for transmitting data from a communication application to a recording medium, the apparatus comprising:

data receiving means for receiving data transmitted from each of plural communication applications;

priority judging means for judging priorities assigned to plural kinds of data received by the data receiving means; and

data transmitting means for transmitting the plural kinds of data received by the data receiving means to the recording medium in order of decreasing priorities on the basis of a judging result by the priority judging means.

5. The data communication apparatus according to Claim 4, further comprising:

data dividing means for dividing data received by said data receiving means into plural data pieces,

wherein, upon receipt of data having a higher priority than the data while the divided data pieces obtained in the data dividing means are being transmitted time-sequentially, the data transmitting means transmits the data having the

higher priority after transmission of a data piece being transmitted is completed, and resumes transmission of remaining data pieces after transmission of the data is completed.

6. The data communication apparatus according to Claim 4, wherein:

upon receipt of plural kinds of data having equal priorities, the data transmitting means transmits data pieces of the plural kinds of data by turns.

7. A data transmitting method, comprising:

receiving data transmitted from each of plural communication applications;

dividing each of plural kinds of received data into plural data pieces;

generating a new kind of data by exchanging data pieces between one of the plural kinds of data and another kind of data each being divided into plural data pieces;

dividing each new kind of data equally by a numerical value corresponding to the number of bits in a data bus; and

transmitting all of the divided data pieces at a same time via the data bus.

8. A data receiving method, comprising:

receiving plural data pieces transmitted at a same time via the data bus by the data transmitting method according to Claim 7, and restoring the plural data pieces into one kind of data; and

exchanging the data pieces in inverse between the restored data and said another kind of data, with which the data pieces have been exchanged, and thereby restoring the restored data to original data.

9. A data transmitting apparatus, comprising:

receiving means for receiving data transmitted from each of plural communication applications;

first data dividing means for dividing each of plural kinds of data received by the receiving means into plural data pieces;

data exchanging means for exchanging data pieces between the data divided into plural data pieces by the first data dividing means and another data also divided into plural data pieces, and thereby generating new kinds of data;

second data dividing means for dividing each new kind of data generated by the data exchanging means equally by a numerical value corresponding to the number of bits in a data bus; and

transmitting means for transmitting all of the data pieces generated by the second data dividing means at a same

time via the data bus.

10. A data receiving apparatus, comprising:

receiving means for receiving plural data pieces transmitted at a same time via said data bus from the data transmitting apparatus according to Claim 9;

first data restoring means for restoring plural data pieces received by the receiving means to one kind of data; and

second data restoring means for exchanging the data pieces in reverse between the data restored by the first data restoring means and the another kind of data, with which the data pieces have been exchanged, and thereby restoring the restored data to original data.

11. A data communication system, comprising:

the data transmitting apparatus according to Claim 9; and

the data receiving apparatus according to Claim 10.

12. A data communication method for transmitting data from a communication application to a recording medium, comprising:

monitoring a quantity of data stream of data to be transmitted from said communication application; and

increasing/decreasing allocation of a data bus to said

communication application dynamically depending on the quantity of data stream.

13. A data communication system for performing the data communication method according to Claim 1, the system comprising:

the data transmitting apparatus according to Claim 9;
and
the data receiving apparatus according to Claim 10.

14. A data communication system for performing the data communication method according to Claim 12, the system comprising:

the data transmitting apparatus according to Claim 9;
and
the data receiving apparatus according to Claim 10.

15. A data communication system for performing the data communication method according to Claim 1 and the data communication method according to Claim 12, the system comprising:

the data transmitting apparatus according to Claim 9;
and
the data receiving apparatus according to Claim 10.